

REMARKS

Favorable reconsideration of this application, in light of the following discussion and in view of the present amendment, is respectfully requested.

Claims 3, 8, 18, 19, 32, 33, 45, 54 and 59-62 are cancelled. Claims 1, 6, 11, 25, 40 and 47-49 are amended. Claims 1, 2, 4-7, 9-17, 20-32, 34-44, 46-53 and 55-58 are pending.

I. Claim Objections

In the Office Action, at page 2, claim 4 was objected to because of informalities. Claim 4 was amended in view of the Examiner's comments, and accordingly, withdrawal of the claim objection is respectfully requested.

II. Rejection under 35 U.S.C. § 112

In the Office Action, at page 3, numbered paragraph 5, claims 4 and 9 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is respectfully traversed.

Claims 4 and 9 recite that the data setting unit sets one of the number of times the identified signal is checked, a time required to check the identified input signal, etc. Then claims 4 and 9 recite that if the signal checking unit has not checked the number of set times and has also not checked for the period of set time, then the signal checking unit continues checking whether the signal is abnormal. Thus, if the data setting unit has set a number of times the signal is checked, then the signal checking unit does not continue checking whether the signal is abnormal. If the data setting unit has set a time required to check the identified input signal, then the signal checking unit does not continue checking whether the signal is abnormal. Therefore, as long as the signal checking unit has not checked the set number of times or the period of set time, then the signal checking unit continues checking whether the input signal is abnormal. The data setting unit is able to set one of the three options, but as long as the first or second option has not been set, then the signal checking unit is able to continue checking whether the signal is abnormal. Claims 4 and 9 thus do not require that all three options must be performed, just that options one and two are not performed.

Accordingly, withdrawal of the § 112, second paragraph, rejection is respectfully requested.

III. Rejection under 35 U.S.C. § 103

In the Office Action, at page 4, numbered paragraph 8, claims 1-19, 22-33, 36-62 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,276,436 to Shaw et al. in view of U.S. Patent 5,886,545 to Sakuda et al. This rejection is respectfully traversed because the combination of the teachings of Shaw and Sakuda does not suggest:

a data setting unit that sets data corresponding to a user input regarding the received input signal, the set data representing how to check the identified input signal, the set data being at least one of a number of times the identified input signal is checked and a time required to check the identified input signal; and

a signal changing unit that switches from the checked input signal to a next input signal to be checked based on the set data corresponding to the identified type of the input signal so that the signal checking unit checks whether the next input signal is abnormal, if the identified input signal is determined to be abnormal,

wherein the signal checking unit checks whether the identified input signal is abnormal by one of decoding the identified input signal and sensing whether an input signal cable is connected to the display device,

as recited in amended independent claim 1. Independent claim 1 incorporates the features of dependent claim 3.

Shaw does not discuss or suggest that "the signal checking unit checks whether the identified input signal is abnormal by one of decoding the identified input signal and sensing whether an input signal cable is connected to the display device."

Referring to Fig. 6 and col. 9, lines 43-64 of Shaw, Shaw discusses that if the microprocessor 36 receives no signal from the analog multiplex unit 34, the program proceeds to instruction box 607 to cause the analog multiplex control signal MUX CONTROL to be switched allowing the HSYNC and VSYNC signal from another video signal source to be coupled to the microprocessor 36. The Examiner alleges that, thus, Shaw discloses that "the microprocessor 36 checks the received input signal from the multiplex unit to determine if there is a horizontal synchronizing signal present or not, where no synchronizing signal means that the input signal is 'abnormal'." The Examiner further alleges that "the microprocessor tells the analog multiplex unit 34 to switch to a next input signal to be checked if no synchronizing signal is present. If there is no cable connected, there will be no synchronizing signal and thus the checking unit will sense whether or not there is a cable connected." The Applicants respectfully disagree with the Examiner's assertions.

The present invention of amended independent claim 1 checks whether the identified input signal is abnormal according to one of the following two methods. According to the first method, the signal checking unit checks whether the identified input signal is abnormal by decoding the identified input signal, and according to the second method, the signal checking unit checks whether the identified input signal is abnormal by sensing whether an input signal cable is connected to the display device. However, the microprocessor 36 of Shaw checks only whether there is a synchronizing signal received from the analog multiplex unit 34 or not. There is no indication in Shaw as to whether or not an input signal cable is connected to the display device. Determining whether an input signal is or is not being received is not sensing whether an input signal cable is connected to the display device. An input signal may not be received for a variety of reasons, and there is no indication in Shaw that it is sensed as to whether, in particular, a signal cable is connected to the display device. Merely noting that a signal is not being received is not sensing whether or not a cable is connected to the device.

Sakuda fails to make up for the deficiencies in Shaw.

Therefore, as the combination of the teachings of Shaw and Sakuda does not suggest all the features of amended independent claim 1, claim 1 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Further, the combination of the teachings of Shaw and Sakuda does not suggest "switching from the checked input signal to a next input signal to be checked based on the set data corresponding to the identified type of the input signal so that whether the next input signal is abnormal is checked, if the input signal is checked and is determined to be abnormal, wherein the checking comprises determining whether the identified input signal is abnormal by at least one of decoding the input signal and sensing whether an input signal cable is connected to the display device," as recited in amended independent claim 6. Therefore, claim 6 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Also, the combination of the teachings of Shaw and Sakuda does not suggest "a signal changing unit switching from the checked input signal to check a next input signal based on set data corresponding to the received input signal so that the signal checking unit checks whether the next input signal is abnormal, the set data representing how to check the identified input signal, wherein the signal checking unit checks whether the identified input signal is abnormal by one of decoding the identified input signal and sensing whether an input signal cable is

connected to the display device,” as recited in amended independent claim 11. Therefore, claim 11 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

The combination of the teachings of Shaw and Sakuda additionally does not suggest “switching from the checked input signal to a next received and identified input signal based on set data corresponding to the received input signal to check whether the next received and identified input signal is abnormal, the set data representing how to check the identified input signal, wherein the checking comprises at least one of decoding the input signal and sensing whether a signal input cable is connected,” as recited in amended independent claim 25. Therefore, claim 25 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

In addition, combination of the teachings of Shaw and Sakuda does not suggest “an input port changing unit for switching from the checked input port to a next input port when the input port is not receiving a normal input signal, wherein at least one of the input ports has priority in an order of checking by the signal checking unit as compared to another input port, wherein the signal checking unit checks whether the input signal is normal by decoding the input signal or sensing whether a cable via which each signal is input is connected,” as recited in amended independent claim 40. Therefore, claim 40 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

The combination of the teachings of Shaw and Sakuda further does not suggest “an input port changing unit for switching from the analog input port to the digital input port to check whether the digital signal is normal when the displaying device determines that the analog input port is not receiving a normal analog input signal, the switching from the analog input port to the digital input port being based on set data corresponding to the analog signal, the set data representing how to check the analog signal, wherein whether the analog input port receives the normal analog input signal is determined by decoding the input signal or sensing whether a cable via which each signal is input is connected,” as recited in amended independent claim 47. Therefore, claim 47 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

In addition, the combination of the teachings of Shaw and Sakuda does not suggest “an input port changing unit for switching from the digital input port to the analog input port to check whether the analog signal is normal when the displaying device determines that the digital input

port is not receiving a normal digital input signal, the switching from the digital input port to the analog input port being based on set data corresponding to the digital signal, the set data representing how to check the digital signal, wherein whether the digital input port receives the normal digital input signal is determined by decoding the input signal or sensing whether a cable via which each signal is input is connected," as recited in amended independent claim 48. Therefore, claim 48 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Also, the combination of the teachings of Shaw and Sakuda does not suggest "switching from the checked input port to a next input port to be checked when a normal input signal is not being received from the selected input port, wherein at least one of the input ports has priority in an order of checking by the signal checking unit as compared to another input port, wherein whether the input signal is normal is checked by decoding the input signal or sensing whether a cable via which each signal is input is connected," as recited in amended independent claim 49. Therefore, claim 49 patentably distinguishes over the references relied upon. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Claims 3, 8, 18, 19, 32, 33, 45, 54 and 59-62 are cancelled. Claims 2, 4, 5, 7, 9, 10, 12-17, 22-24, 26-31, 36-44, 46, 50-53 and 55-58 depend either directly or indirectly from independent claims 1, 6, 11, 25, 40 and 47-49 and include all the features of their respective independent claims, plus additional features that are not discussed or suggested by the references relied upon. Therefore, claims 2, 4, 5, 7, 9, 10, 12-17, 22-24, 26-31, 36-44, 46, 50-53 and 55-58 patentably distinguish over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

In the Office Action, at page 17, numbered paragraph 9, claims 20, 21, 34 and 35 were rejected under 35 U.S.C. §103(a) as being unpatentable over Shaw in view of Sakuda and in further view of U.S. Patent 5,808,693 to Yamashita et al. This rejection is respectfully traversed.

As discussed above, the combination of the teachings of Shaw and Sakuda does not suggest all the features of independent claims 11 and 25. Yamashita fails to make up for the deficiencies in Shaw and Sakuda. Therefore, claims 11 and 25 patentably distinguish over the references relied upon.

Claims 20, 21, 34 and 35 depend either directly or indirectly from independent claims 11 and 25 and include all the features of their respective independent claims, plus additional features that are not discussed or suggested by the references relied upon. Therefore, claims

20, 21, 34 and 35 patentably distinguish over the references relied upon for at least the reasons noted above. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

Conclusion

In accordance with the foregoing, claims 3, 8, 18, 19, 32, 33, 45, 54 and 59-62 have been cancelled. Claims 1, 6, 11, 25, 40 and 47-49 have been amended. Claims 1, 2, 4-7, 9-17, 20-32, 34-44, 46-53 and 55-58 are pending and under consideration.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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